User Manual

IP CAMERA

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

<table>
<tr><td> </td><td>CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN</td><td> </td></tr>
<tr><td colspan="3">CAUTION：TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</td></tr>
</table>

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I. Preface

This is a 1/4” CMOS IP camera with the web server built in. User can view real-time video via IE browser. It supports H.264, JPEG and MPEG4(3GPP Only) video compression which provides smooth and high video quality. The video can be stored in the Micro SD card and playback remotely.
With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

II. Product Specifications

- VGA CMOS Sensor @ 30FPS
- Power over Ethernet available
- H.264/ JPEG / MPEG4 compression
- Micro SD card backup
- 2-way audio
- Support iPhone/ Android/ Symbian /Blackberry/Mac
- Triple Streaming
- SDK for Software Integration
- Free Bundle 36 Channel Recording Software

Specifications

Hardware	
CPU	ARM 9 ,32 bit RISC
RAM	128MB
Flash	16MB
Image sensor	1 / 4” VGA CMOS sensor
Sensitivity	1.0 lux @ 30fps
Lens Type	4.3mm @ F2.0
Audio	G.711/G.726(24Kbps/32kbps) audio compression Input : Mic built-in Output : 3.5mm phone jack, Support 2-way

		audio
IO		DI / DO
Power over Ethernet		Optional
Operating Temperature		-10℃~45℃
Dimensions		59mm x 93.7(mm)x 45.5(mm)
Weight		240g
Network		
Ethernet		10/ 100 Base-T
Network Protocol		HTTP, HTTPS, SNMP, QoS/DSCP, Access list, IEEE 802.1X, RTSP, TCP/IP, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP, SAMB
Wireless (Optional)		
	Wireless	802.11 n/b/g
	Security	WEP,WPA-PSK,WPA2-PSK
System		
Video Resolution		640x480@30fps, 320x240@30fps, 176x144@30fps
Triple Streaming		Yes
CMOS setting		Brightness, Contrast, Saturation, Exposure, Sharpness, AGC, BLC, Night Mode, Flip, Mirror, Outdoor/Indoor
Image snapshot		Yes
Full screen monitoring		Yes
Zoom		Yes
Privacy Mask		Yes, 3 different areas
Compression format		H.264/ M-JPEG/ MPEG4
Video bitrates adjust		CBR, VBR
Motion Detection		Yes, 3 different areas
Triggered action		Mail, FTP, Save to SD card, DO, Samba
Pre/ Post alarm		Yes, configurable
Security		Password protection, IP address filtering, HTTPS encrypted data transmission, 802.1X port-based authentication for network protection, QoS/DSCP

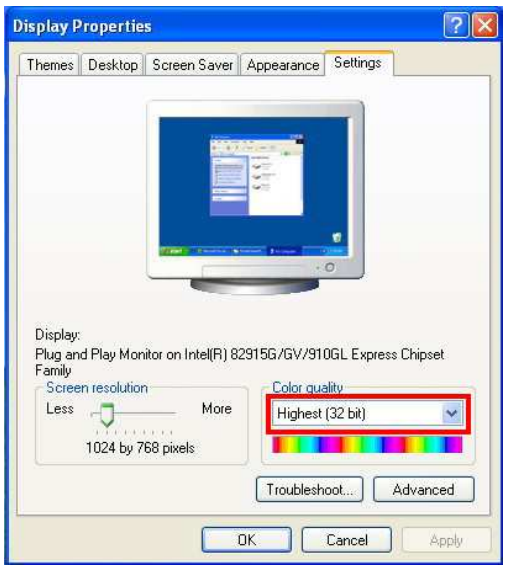
Firmware upgrade		HTTP mode, can be upgraded remotely
Simultaneous connection		Up to 10
SD card management		
Recording trigger		Motion Detection, IP check, Network break down (wire only),schedule, DI
Video format		AVI, JPEG
Video playback		Yes
Delete files		Yes
Web browsing requirement		
OS		Windows 7, 2000, XP, 2003, Microsoft IE 6.0 or above
Hardware	Suggested	Intel Dual Core 2.53G,RAM: 1024MB, Graphic card: 128MB

III. Product Installation

A. Monitor Setting

i. Right-Click on the desktop. Select " Properties"

ii. Change color quality to highest (32bit).

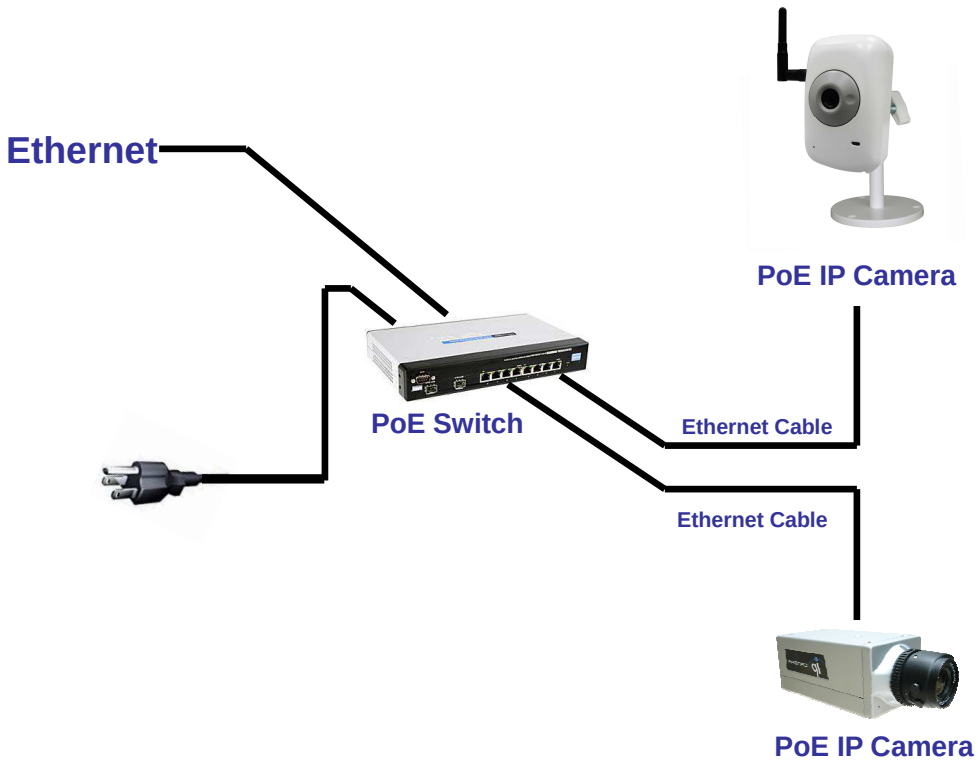

Display Properties
Themes
Desktop
Screen Saver
Appearance
Settings
Display:
Plug and Play Monitor on Intel(R) 82915G/GV/910GL Express Chipset Family
Screen resolution
Less
More
1024 by 768 pixels
Color quality
Highest (32 bit)
Troubleshoot...
Advanced
OK
Cancel
Apply

B. Hardware Installation Assignment

i. Connect power adaptor.
Connect IP Cam to PC or network with Ethernet cable.
Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, “Network Configuration for IP CAMERA”.

ii. PoE (Power Over Ethernet)(Optional) **802.3af, 15.4W PoE Switch is recommended**

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.



C. IP Assignment

i. Use the software, “IP Installer” to assign the IP address of IP CAMERA. The software is in the attached software CD.

ii. IP installer supports two languages
   a. IPInstallerCht.exe：Chinese version
   b. IPInstallerEng.exe：English version

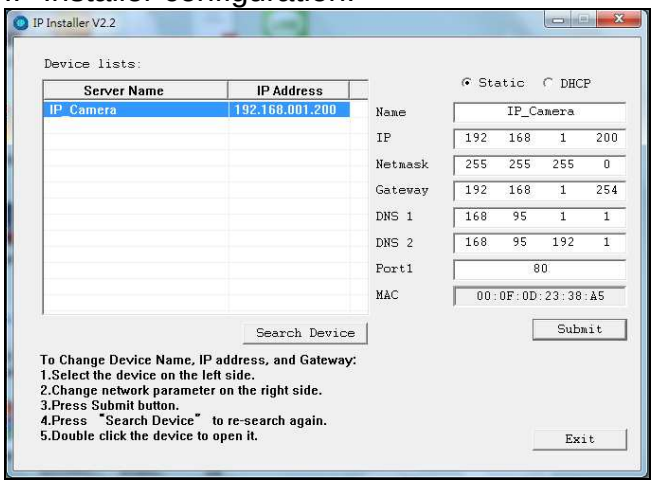
iii. There are 3 kinds of IP configuration.
   a. Fixed IP (Public IP or Virtual IP)
   b. DHCP (Dynamic IP)
   c. Dial-up (PPPoE)

iv. Execute IP Installer

v. For Windows XP SP2 user, it may popup the following message box. Please click “Unblock”.

Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.1 Network Device Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

vi. IP Installer configuration:



vii. IP Installer will search all IP Cameras connected on Lan. The user can click “Search Device” to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the “name” of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click “Submit” then click “OK”. It will apply the change and reboot the Device.

ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

Different Subnets:

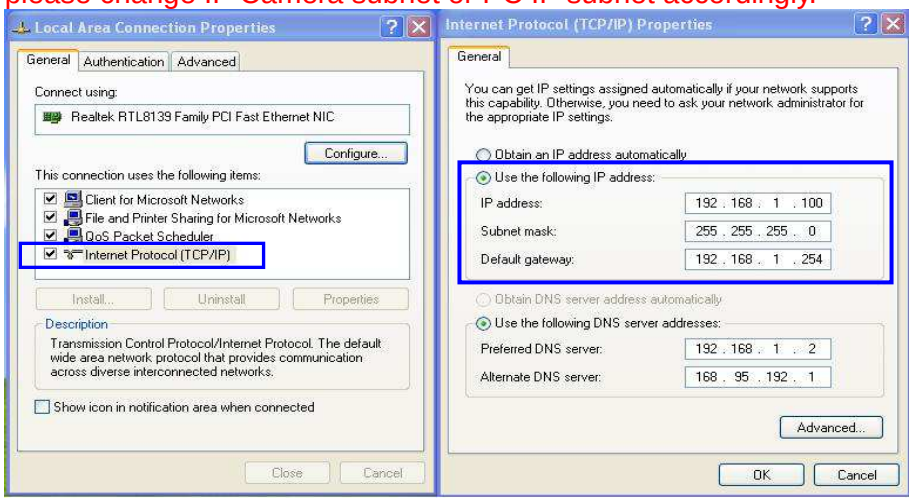
IP CAM IP address: 192.168.2.200

PC IP address: 192.168.1.100

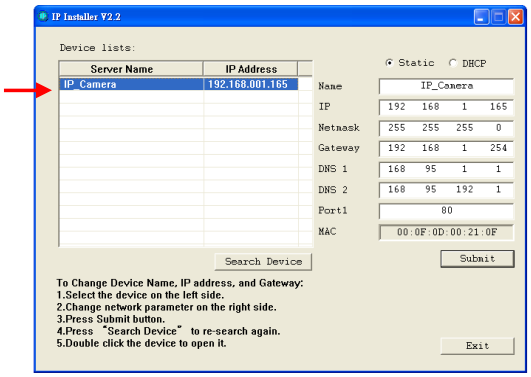
To Change PC IP address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.


Local Area Connection Properties
General
Authentication
Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Ethernet NIC
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Close
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 1 . 2
Alternate DNS server: 168 . 95 . 192 . 1
Advanced...
OK
Cancel

x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



xi. Then, please key in the default “user name: admin” and “password: admin”.

Windows Security
The server 192.168.1.200 at IP_Camera requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
admin
Remember my credentials
OK
Cancel

D. Install ActiveX control:

For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

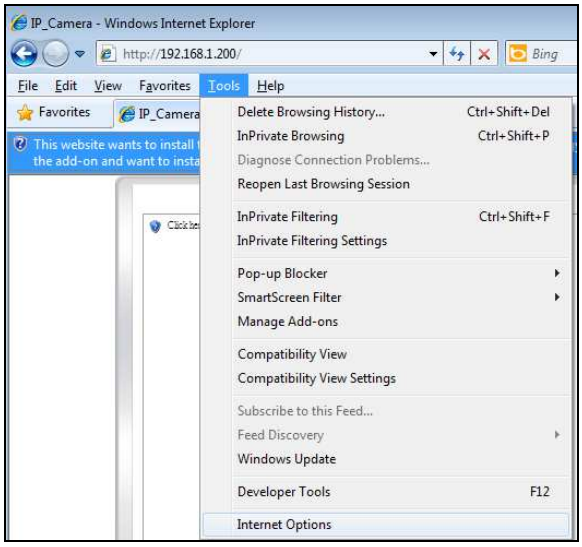
IP_Camera - Windows Internet Explorer
http://192.168.1.200/
Bing
Favorites
IP_Camera
This website wants to install the following add-on: 'WEBWATCH2.cab' from ''
., Ltd.'. If you trust the website and
the add-on and want to install it, click here...

If the installation failed, please check the security setting for the IE browser.

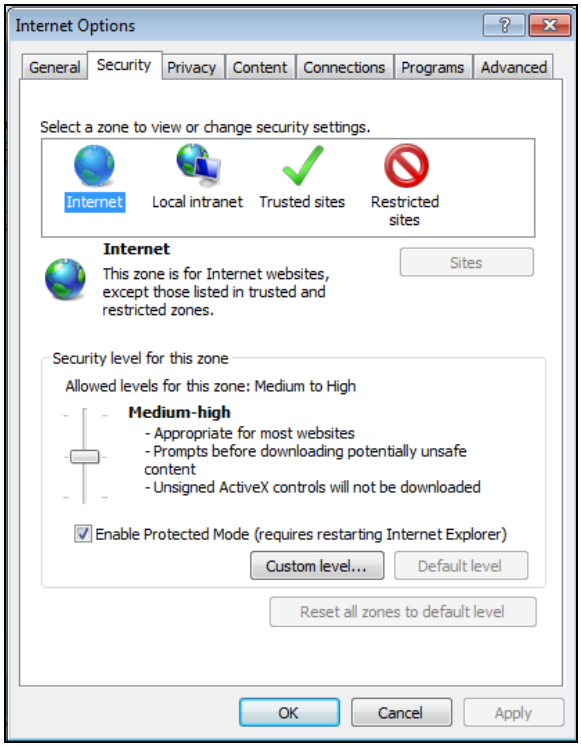
i. IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select “Enable” or Prompt.

ii. IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select “Enable” or Prompt.

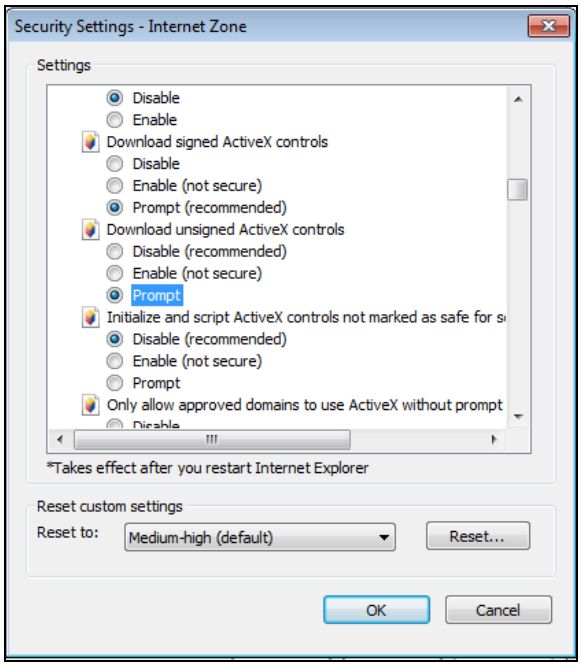
1


IP_Camera - Windows Internet Explorer
http://192.168.1.200/
Bing
File Edit View Favorites Tools Help
Favorites
IP_Camera
Delete Browsing History... Ctrl+Shift+Del
InPrivate Browsing Ctrl+Shift+P
Diagnose Connection Problems...
Reopen Last Browsing Session
InPrivate Filtering Ctrl+Shift+F
InPrivate Filtering Settings
Pop-up Blocker
SmartScreen Filter
Manage Add-ons
Compatibility View
Compatibility View Settings
Subscribe to this Feed...
Feed Discovery
Windows Update
Developer Tools F12
Internet Options

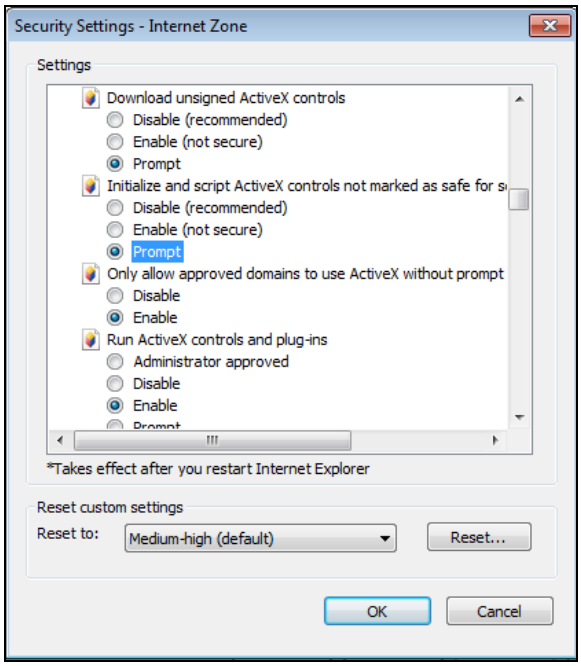
2


Internet Options
General Security Privacy Content Connections Programs Advanced
Select a zone to view or change security settings.
Internet
Local intranet
Trusted sites
Restricted sites
Internet
This zone is for Internet websites, except those listed in trusted and restricted zones.
Sites
Security level for this zone
Allowed levels for this zone: Medium to High
Medium-high
- Appropriate for most websites
- Prompts before downloading potentially unsafe content
- Unsigned ActiveX controls will not be downloaded
Enable Protected Mode (requires restarting Internet Explorer)
Custom level...
Default level
Reset all zones to default level
OK
Cancel
Apply

3

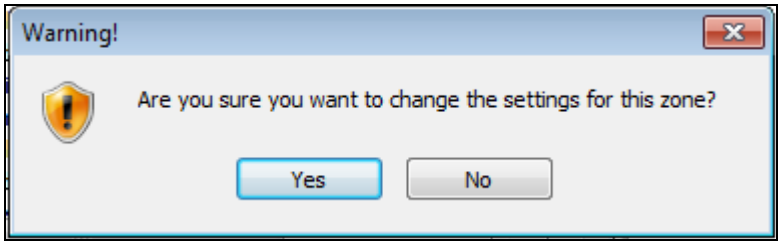

Security Settings - Internet Zone
Settings
Disable
Enable
Download signed ActiveX controls
Disable
Enable (not secure)
Prompt (recommended)
Download unsigned ActiveX controls
Disable (recommended)
Enable (not secure)
Prompt
Initialize and script ActiveX controls not marked as safe for s
Disable (recommended)
Enable (not secure)
Prompt
Only allow approved domains to use ActiveX without prompt
*Takes effect after you restart Internet Explorer
Reset custom settings
Reset to:
Medium-high (default)
Reset...
OK
Cancel

4


Security Settings - Internet Zone
Settings
Download unsigned ActiveX controls
Disable (recommended)
Enable (not secure)
Prompt
Initialize and script ActiveX controls not marked as safe for s
Disable (recommended)
Enable (not secure)
Prompt
Only allow approved domains to use ActiveX without prompt
Disable
Enable
Run ActiveX controls and plug-ins
Administrator approved
Disable
Enable
*Takes effect after you restart Internet Explorer
Reset custom settings
Reset to:
Medium-high (default)
Reset...
OK
Cancel

5

When popup the following dialogue box, click “Yes”.

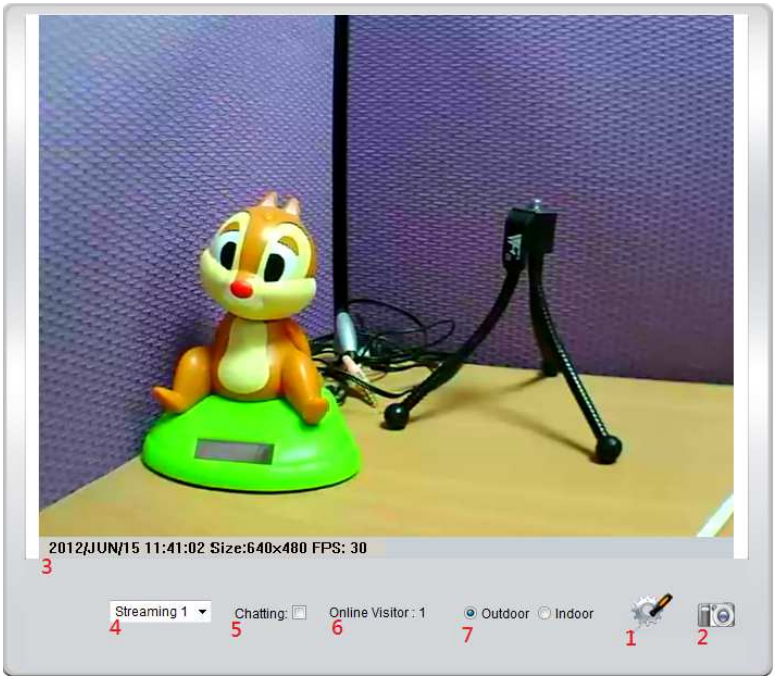


IV. Live Video

Start a IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “**admin**” and “**admin**”.

Windows Security
The server 192.168.1.200 at IP_Camera requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
admin
Remember my credentials
OK
Cancel

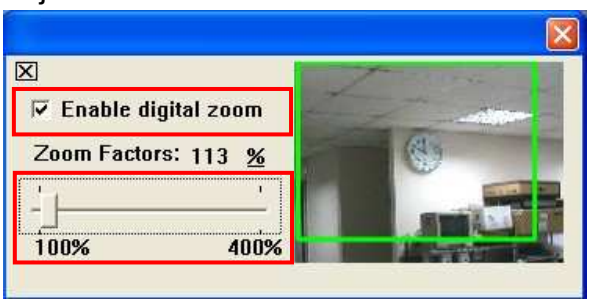
When connect to the IP CAMERA。The following program interface shows.



1. ：Get into the administration page
2. ：Video Snapshot
3. Show system time, video resolution, and video refreshing rate
4. Select video streaming source **(When streaming 2 setting in『Video Setting』 is closed, this function will not display)**
5. IP Camera supports 2-way audio. Click the “Chatting” check box. Then you can use microphone which connects to the PC to talk to server side, which is IP Camera side
6. Shows how many people connect to this IP camera
7. Select the Outdoor or Indoor options.

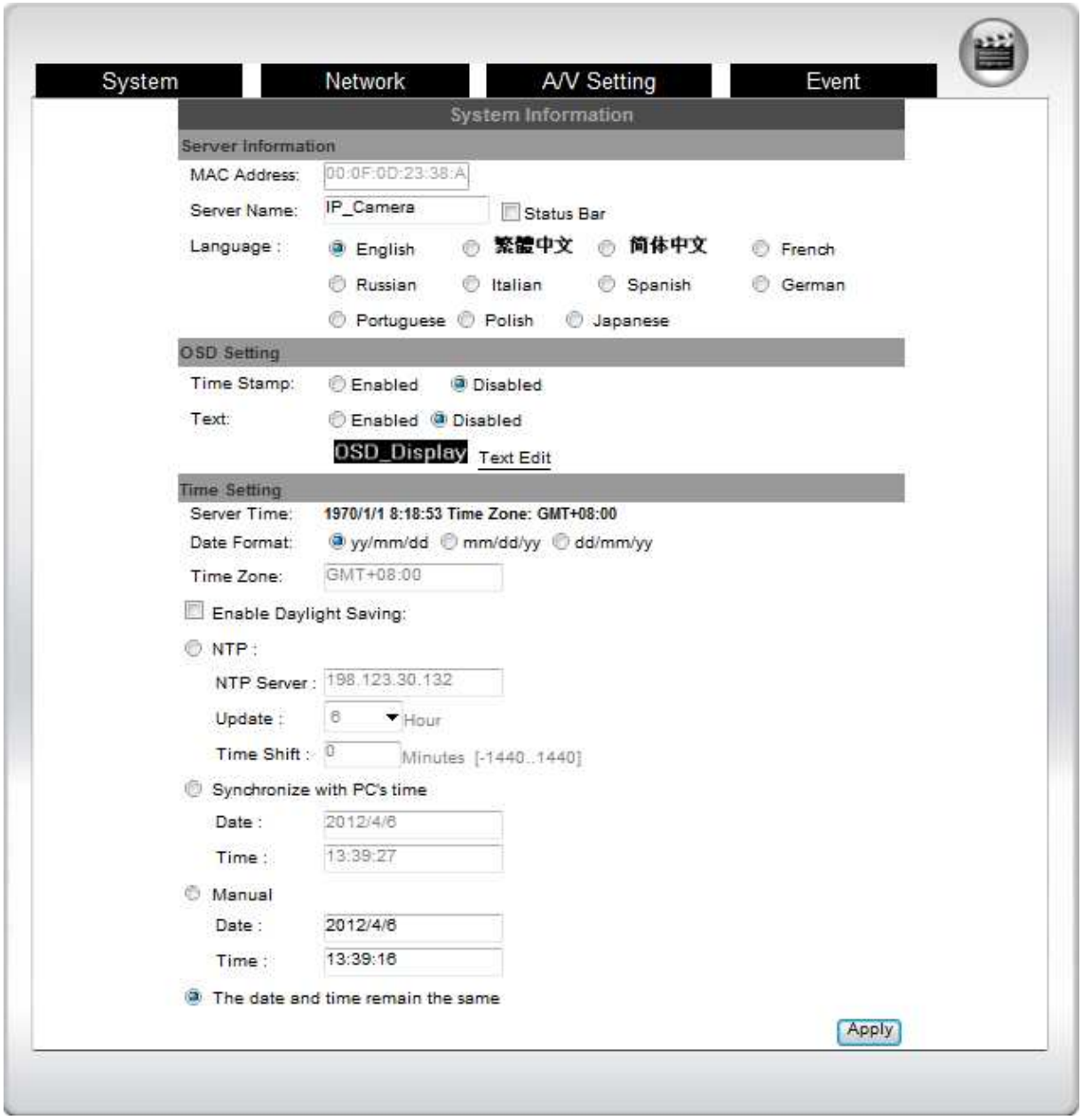
Double-click the video, it will change to full screen mode. Press “Esc” or double-click the video again, it will change back to normal mode.
Right-Click the mouse on the video, it will show a pop-up menu.

1. Snapshot：Save a JPEG picture
2. Record Start：Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select “Record Stop”. The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute：Turn of the audio. Click again to turn on it.
4. Full Screen：Full-screen mode.
5. ZOOM: Enable zoom-in and zoom-out functions. Select “Enable digital zoom” option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



V. Configuration

Click to get into the administration page. Click to go back to the live video page.

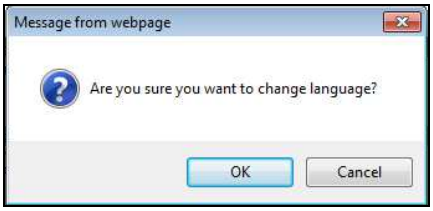


A.System

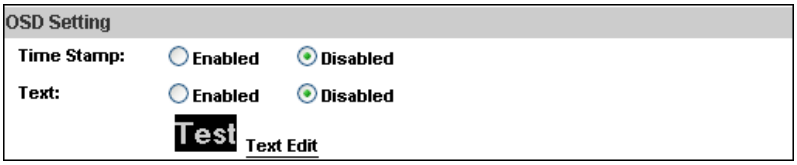
i、 System Information

a. Server Information: Set up the camera name, select language, and set up the camera time.

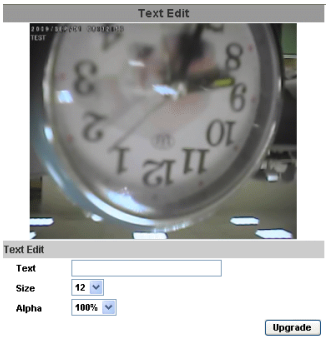
1. Server Name：This is the Camera name. This name will show on the IP Installer.
2. Select language：There are English, Traditional Chinese, and Simplified Chinese to select. When change, it will show the following dialogue box for the confirmation of changing language.



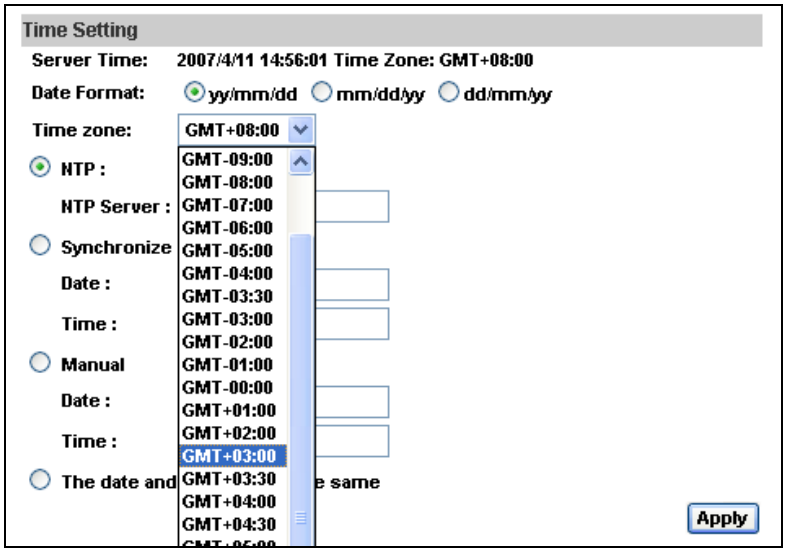
b. OSD Setting: Select a position where date & time stamp / text showing on screen.



Moreover, click Text Edit can entry to adjust the OSD contents which is including Size and Alpha of text. Finally, click Upgrade button to reserve the setting.

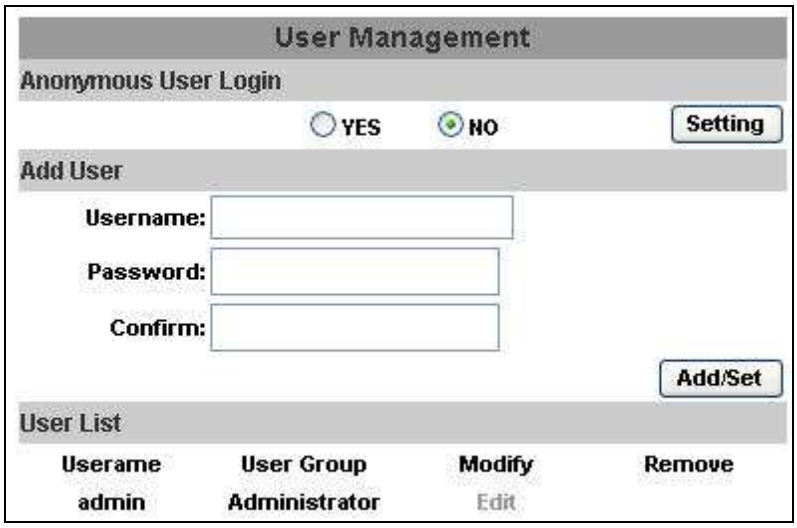


c. Server time setting：Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.



ii、 User Management

IP CAMERA supports three different users, administrator, general user, and anonymous user.



a. Anonymous User Login：

Yes：Allow anonymous login

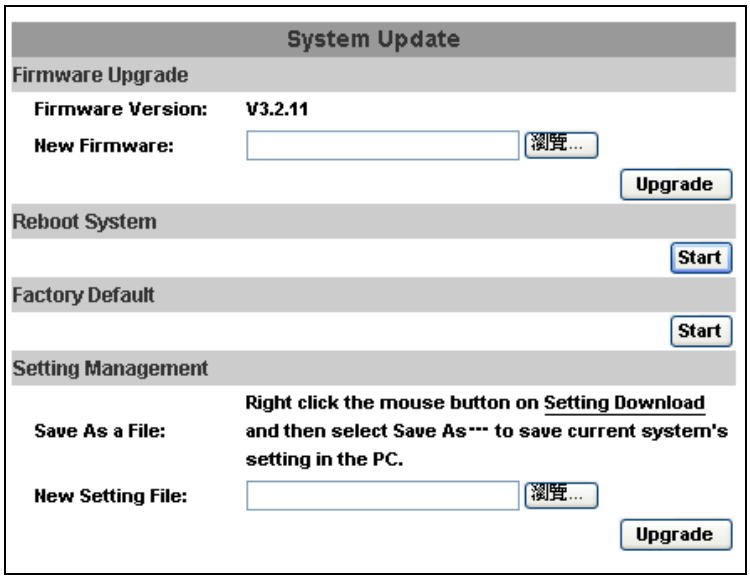
No：Need user name & password to access this IP camera

b. Add user：

Type the user name and password, then click “Add/Set”.

c. Click “edit” or “delete” to modify the user.

iii、 System update：



a. To update the firmware online, click “Browse…” to select the firmware. Then click “Upgrade” to proceed.

b. Reboot system：re-start the IP camera

c. Factory default：delete all the settings in this IP camera.

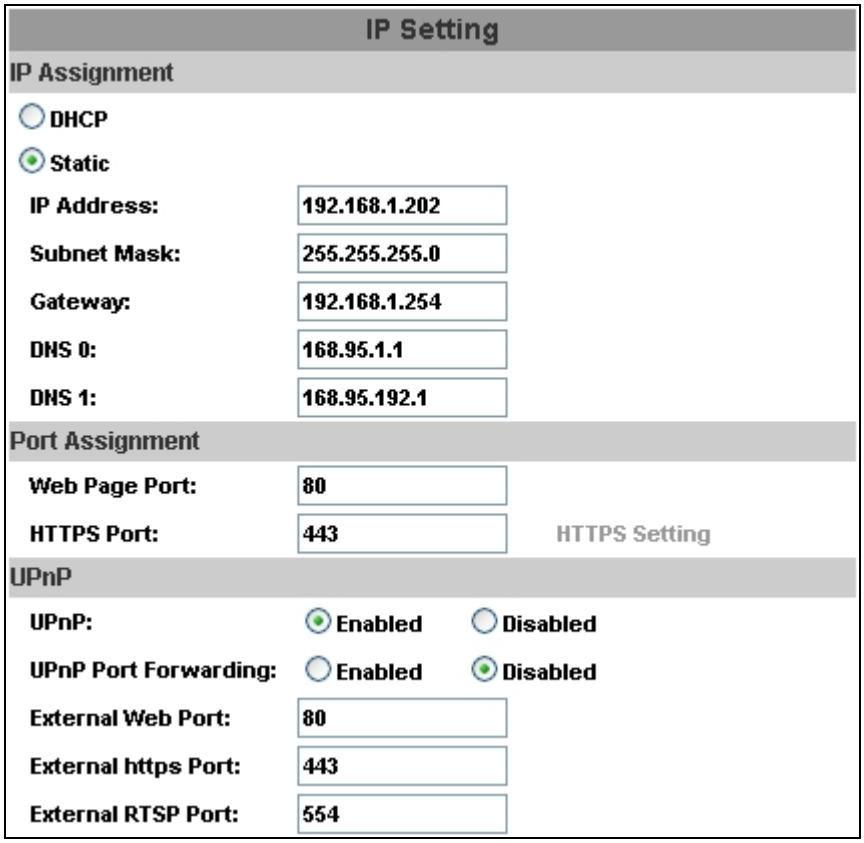
d. Setting Management：User may download the current setting to PC, or upgrade from previous saved setting.

   1. Setting download:
      Right-click the mouse button on Setting Download → Select “Save AS…” to save current IP CAM setting in PC → Select saving directory → Save
   2. Upgrade from previous setting
      Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

B.Network

i、 IP Setting

IP Camera supports DHCP and static IP.



a. DHCP：Using DHCP, IP Camera will get all the network parameters automatically.

b. Static IP：Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.

   1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
   2. HTTPS Port: setup port for HTTPS transmitting (Default: 443)

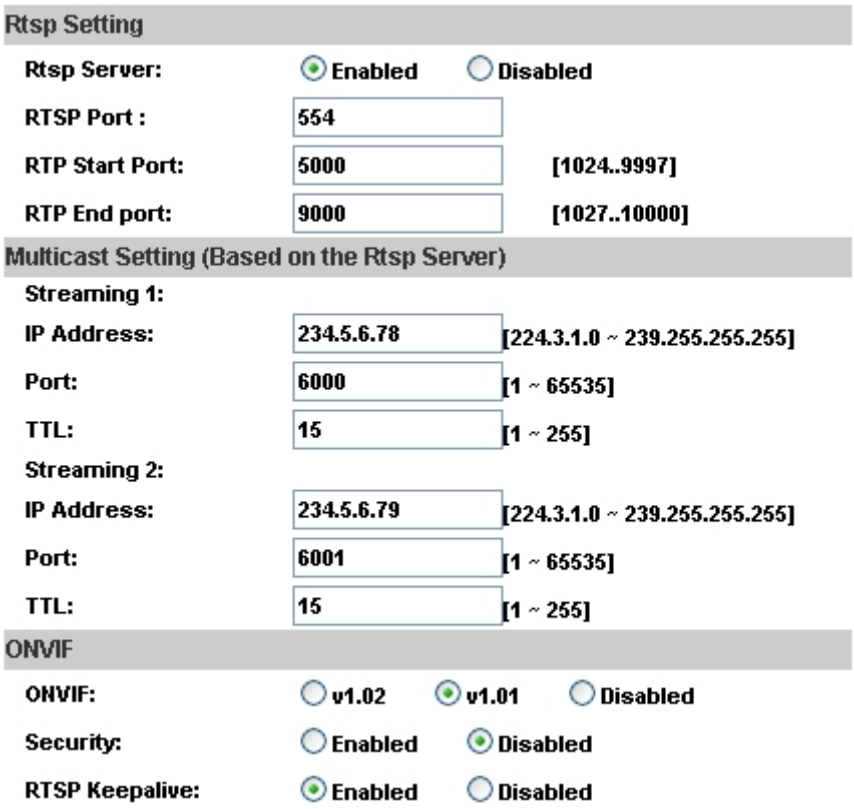
d. UPnP

This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places."

Note: UPnP must be enabled on your computer.

Please follow the procedure to activate UPnP

1. open the Control Panel from the Start Menu
2. select Add/Remove Programs
3. Select Add/Remove Windows Components and open Networking Services section
4. Click Details and select UPnP to setup the service
5. The IP device icon will be added to "MY Network Places"
6. User may double click the IP device icon to access IE browser


Rtsp Setting
Rtsp Server: Enabled Disabled
RTSP Port : 554
RTP Start Port: 5000 [1024..9997]
RTP End port: 9000 [1027..10000]
Multicast Setting (Based on the Rtsp Server)
Streaming 1:
IP Address: 234.5.6.78 [224.3.1.0 ~ 239.255.255.255]
Port: 6000 [1 ~ 65535]
TTL: 15 [1 ~ 255]
Streaming 2:
IP Address: 234.5.6.79 [224.3.1.0 ~ 239.255.255.255]
Port: 6001 [1 ~ 65535]
TTL: 15 [1 ~ 255]
ONVIF
ONVIF: v1.02 v1.01 Disabled
Security: Enabled Disabled
RTSP Keepalive: Enabled Disabled

e. RTSP Setting

Enable or disable RTSP server first and can setup RTSP port and the start and end port of RTP

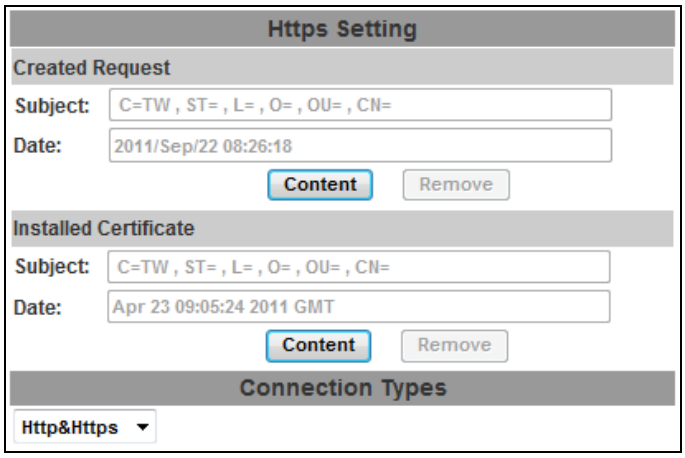
f. Multicast Setting (Based on the RTSP Server)

There are two multicast streaming can be setup. Each streaming can key in the IP Address, port and TTL.

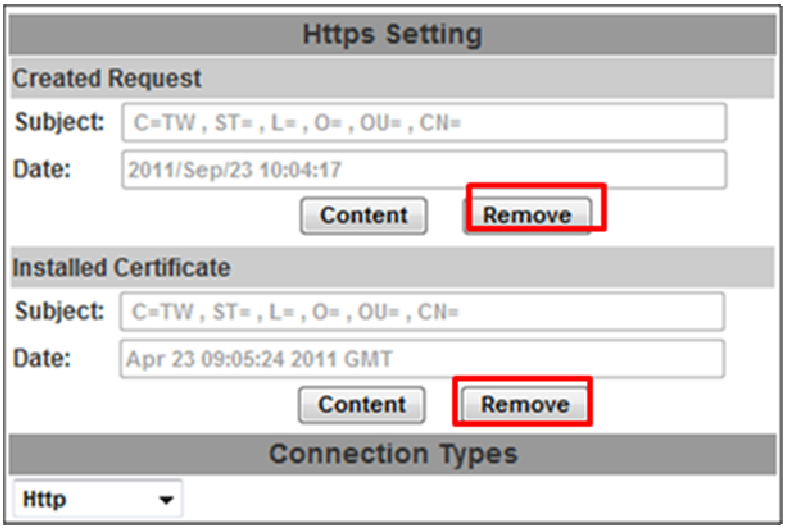
g. ONVIF

ii、 Advanced：

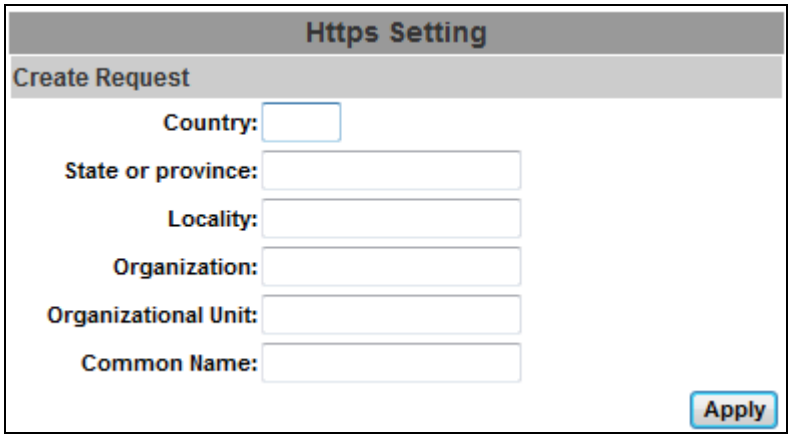
a. Https (Hypertext Transfer Protocol Secure)：Https can help protect streaming data transmission over the internal on the higher security level.



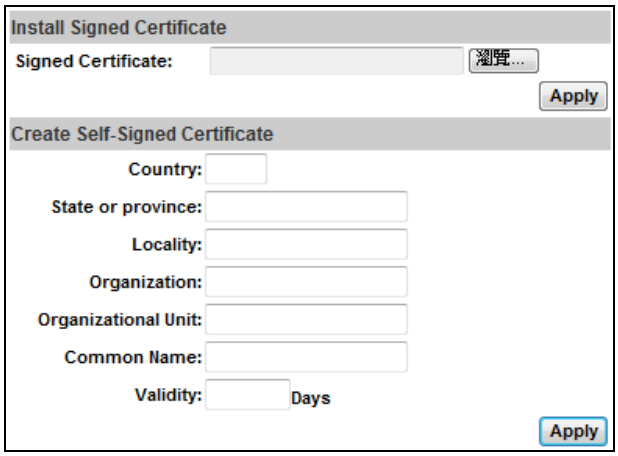
Https setting：Before setting new request, please remove old secure identification identification at Http connection type.



1. Created Request: remove secure identification in Created request mode. There is a warning message showing. Please set “Yes” to remove secure identification.
2. Setting the secure identification and apply it.



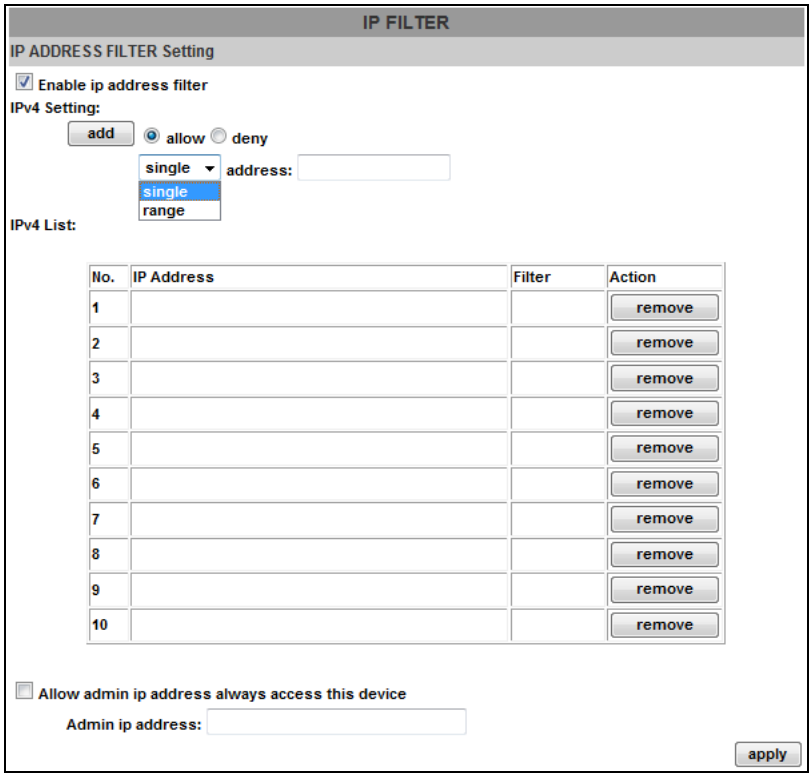
3. Installed Certificate: remove Certificate in .Installed Certificate mode. There will be a warning message to check again.
4. There are two ways to set Certificate- Install Signed Certificate and Create Self-Signed Certificate.



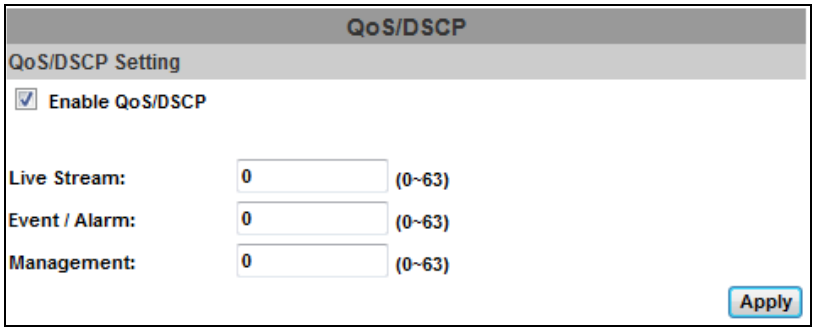
b. SNMP(Simple Network Management Protocol)：

1. Enable SNMPv1 or SNMPv2 and write the name of Write Community and Read Community.
2. Enable SNMPv3, please set Security Name, Authentication Type, Authentication Password, Encryption Type, Encryption Password of Write mode and Read mode.
3. Enable SNMPv1/SNMPv2 Trap can detect the Trap server. Please set what event need to detect.

c. Access list：”Enable IP address filter” can set IP address which can allow or deny to this camera. There are two options, single and range, for user to set the IP address.



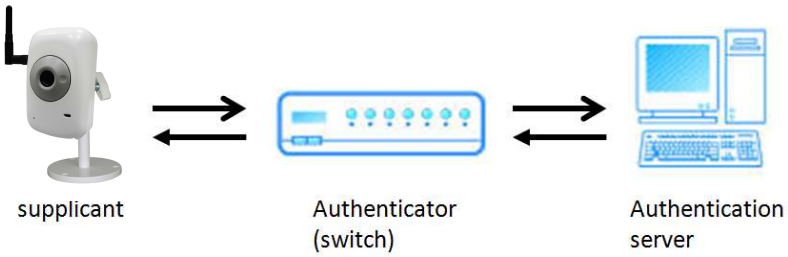
d. QoS/DSCP(Quality of Server/Differentiated Services Code-point)：DSCP specifies a simple mechanism for classifying and managing network traffic and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose. Please define the reserve for Live Stream, Event / Alarm and Management.



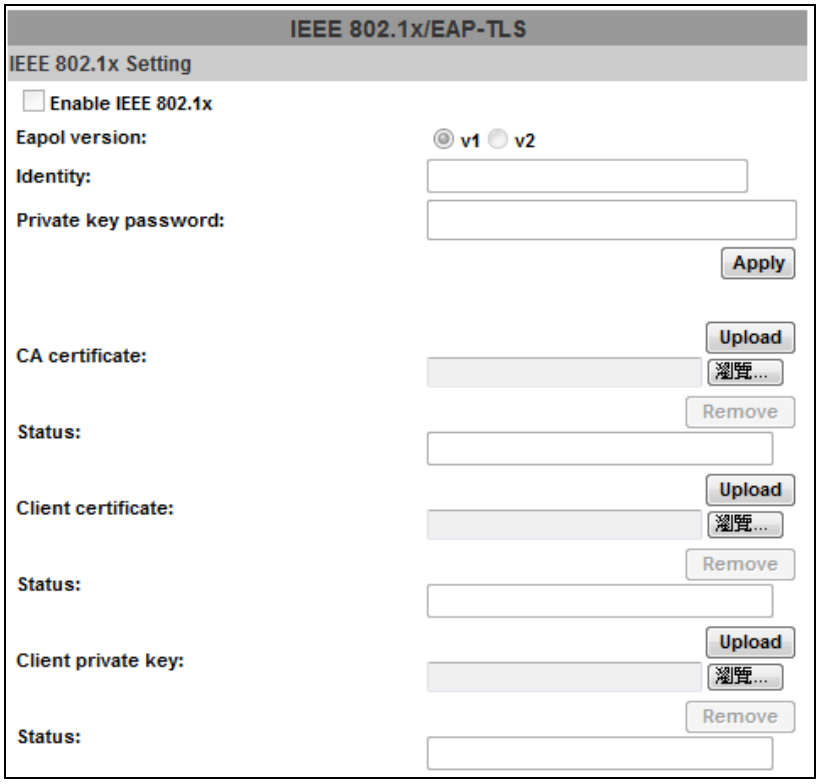
e. IEEE 802.1x：

IEEE 802.1x is an IEEE standard for port-based Network Access Control. It provides an authentication mechanism to device wishing to attach to a LAN or WLAN.

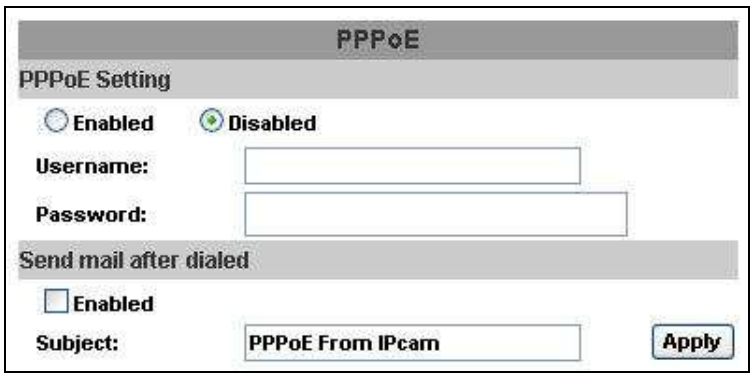
The EAPOL protocol support service identification and optional point to point encryption over the local LAN segment.



Please check what version of the authenticator and authentication server support. This camera supports EAP-TLS method. Please enter ID, passwoard issued by the CA, then upload related certificates.



iii、 PPPoE：



Select “Enabled” to use PPPoE.

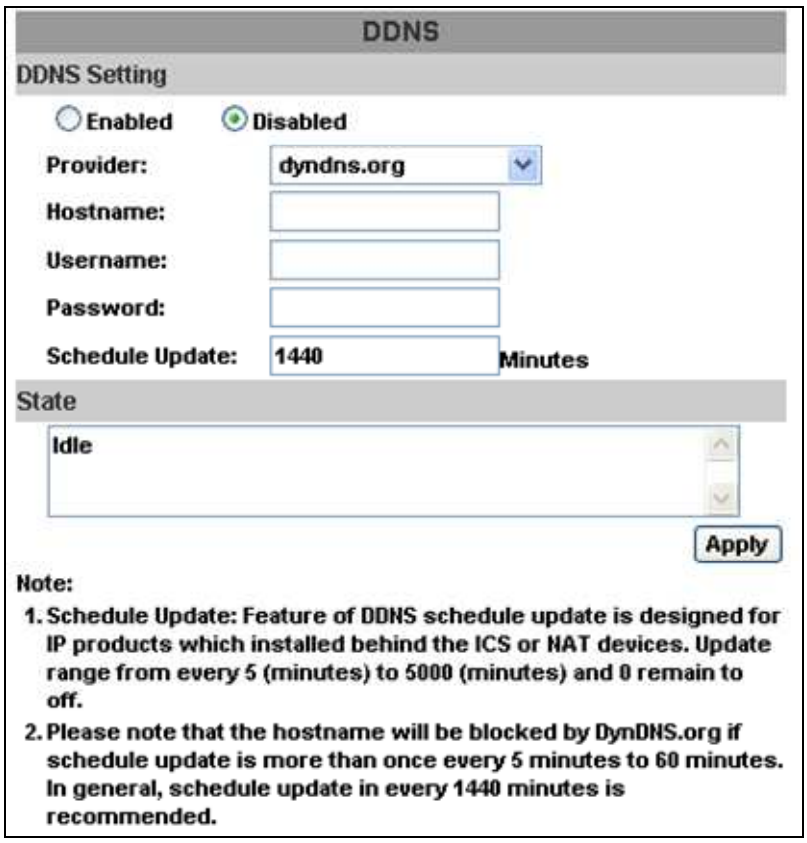
Key-in Username and password for the ADSL connection.

Send mail after dialed：When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to “Mail and FTP” settings.

iv、 DDNS：

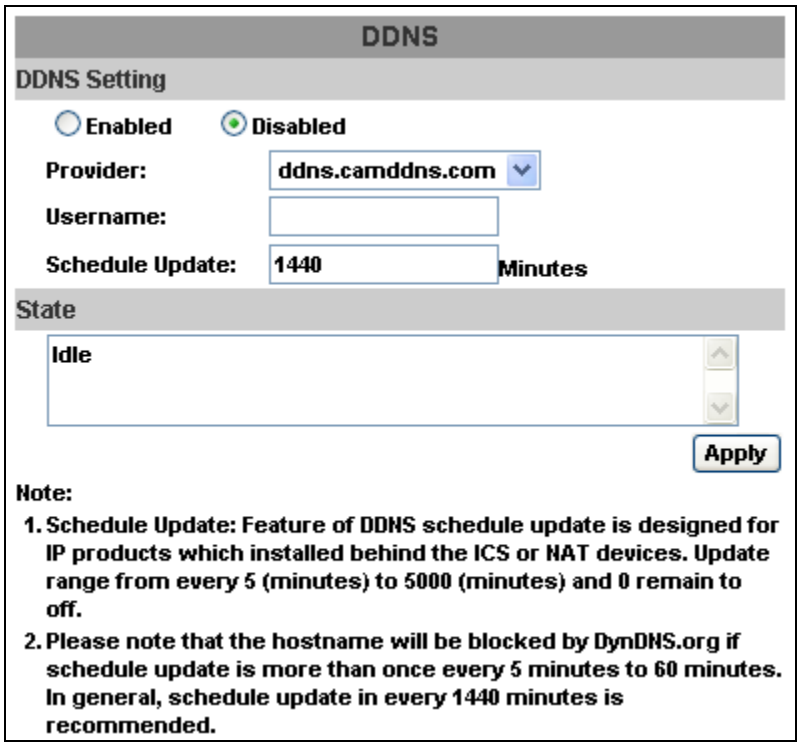
It supports DDNS (Dynamic DNS) service.

a. DynDNS：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
dyndns.org
Hostname:
Username:
Password:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update refreshing rate.
4. Click “Apply”
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

b. Camddns service：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
ddns.camddns.com
Username:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

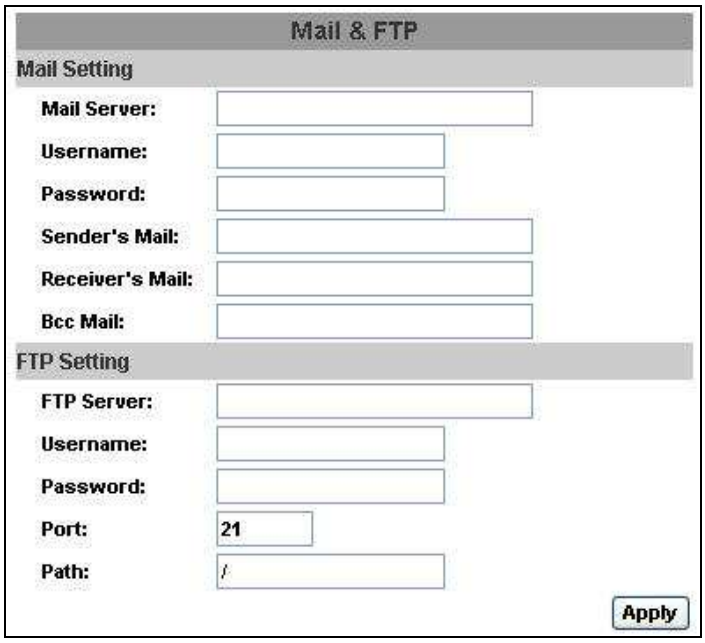
1. Please enable this service
2. Key-in user name.
3. IP Schedule update is default at 5 minutes
4. Click “Apply”.

c. DDNS Status

1. Updating：Information update
2. Idle：Stop service
3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com：Register successfully.
4. Update Failed, the name is already registered：The user name has already been used. Please change it.
5. Update Failed, please check your internet connection：Network connection failed.
6. Update Failed, please check the account information you provide：The server, user name, and password may be wrong.

v、 Mail & FTP

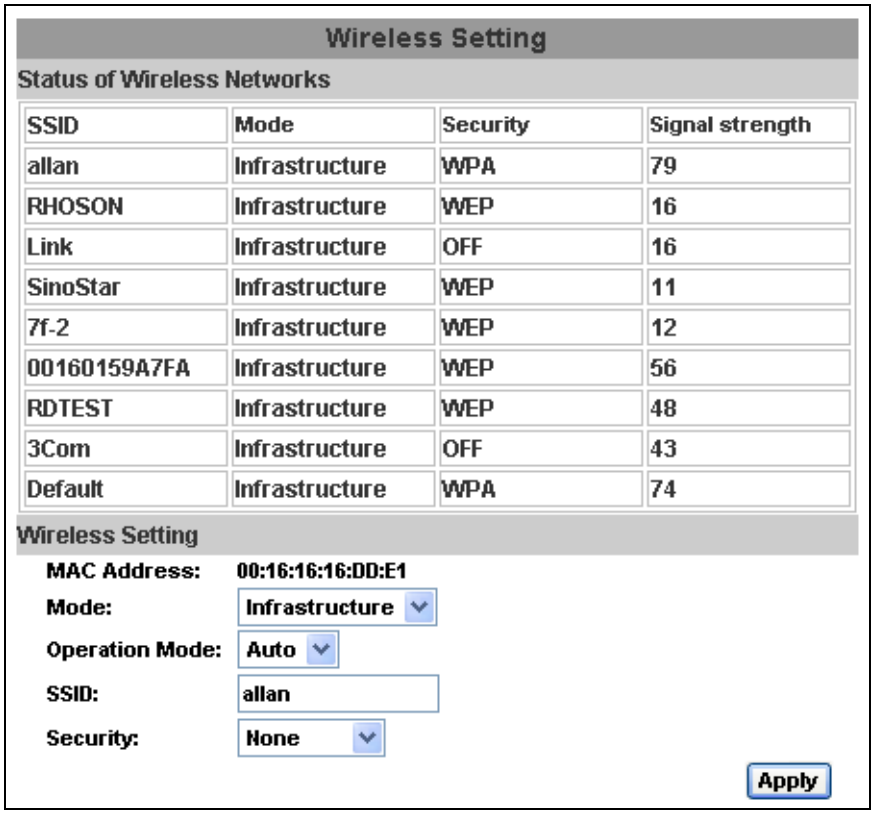
To send out the video via mail of ftp, please set up the configuration first.



vi、 Wireless Setting (Wireless Network Optional)

Supports 802.11 b/g wireless connection.

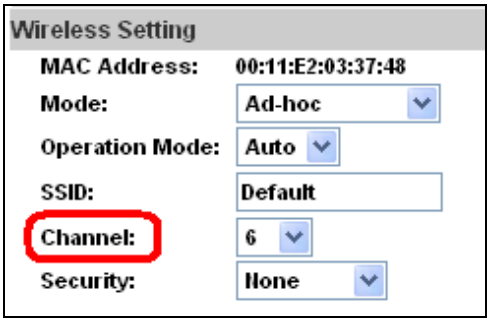
Notice：Wireless network and Ethernet network use the same IP, the user has to unplug Ethernet cable, if Ethernet cable is not unplug, wireless setting can not be executed.



a. Status of Wireless Networks；
scan all wireless services.

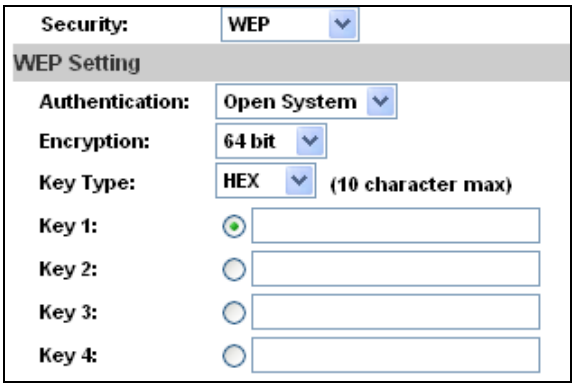
b. Wireless Setting：

1. **Mode**：There are Infrastructure and Ad-hoc. Infrastructure is for connecting with the router. Ad-hoc is for connecting with PC. There is “Channel” to select only when user uses Ad-hoc mode.
e.g. If one PC’s channel is 1, the other’s channel has to 1, too.



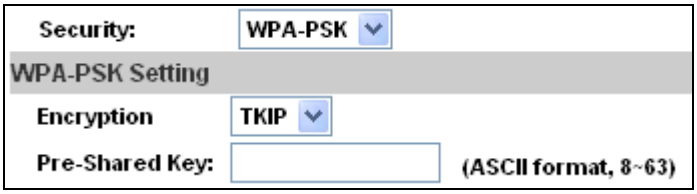
2. **SSID**：Based on AP setting.
3. **Channel**：This is only be used when the user selects Ad-hoc mode in order to avoid conflict.
4. **Security**：It supports “None”, “WEP”, “WPA-PSK” security encryption based on the setting of the Router.

5. **WEP**：



- Authentication：There are Open System and Shared Keys, it is based on different encryptions. This has to be the same as the Router's setting.
- Encryption：There are 64 bits and 128 bits. This is based on Key Type based on the Router's setting.
- Key Type：There are HEX and ASCII. When selecting HEX, the user only can input 0~9 characters and use A, B, C, D, E, and F.
- When selecting ASCII, the user can input any character. (Case sensitive)
- Key 1~4：Based on Key Type to input characters.

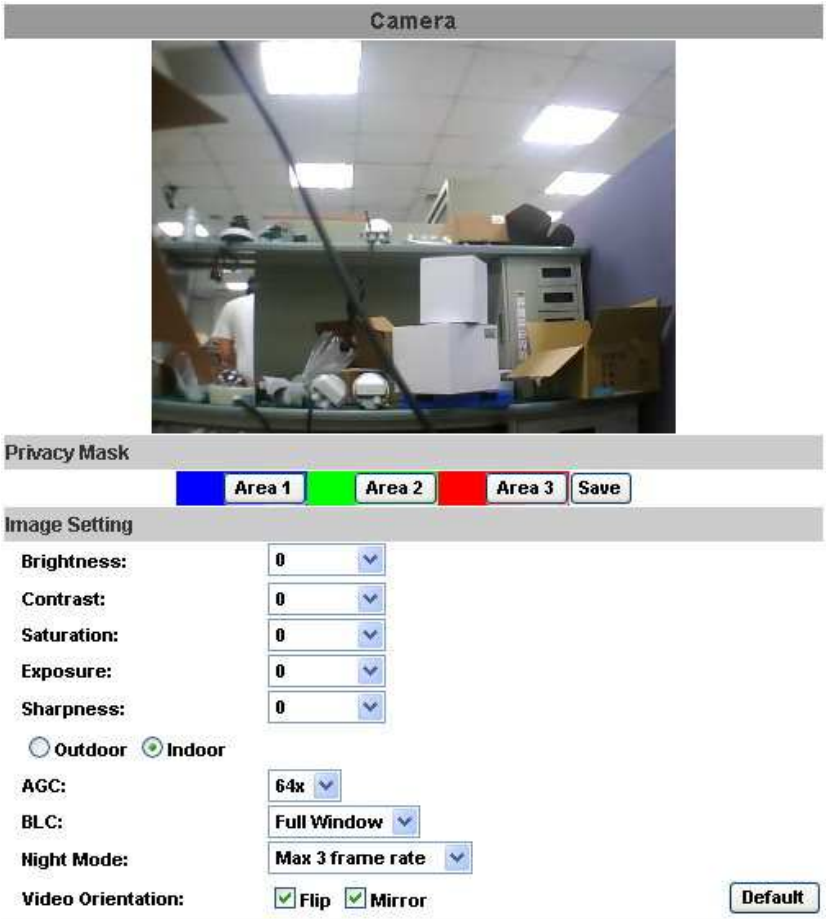
6. **WPA-PSK**：



- Encryption：There are TKIP and AES.
- Pre-Shared Key：Allow any characters .(Case sensitive)

C.A/V Setting

i、 Image Setting



For the security purpose, there are three areas can be setup for privacy mask. Click Area button first and pull a area on the above image. Finally, click Save button to reserve the setting.
Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” to get clear video.

Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” , “Exposure”, “Sharpness” to get clear video. Moreover, IP CAMERA supports “Back Light Compensation”, “Night Mode” and “Video Orientation”.

ii、 Video Setting

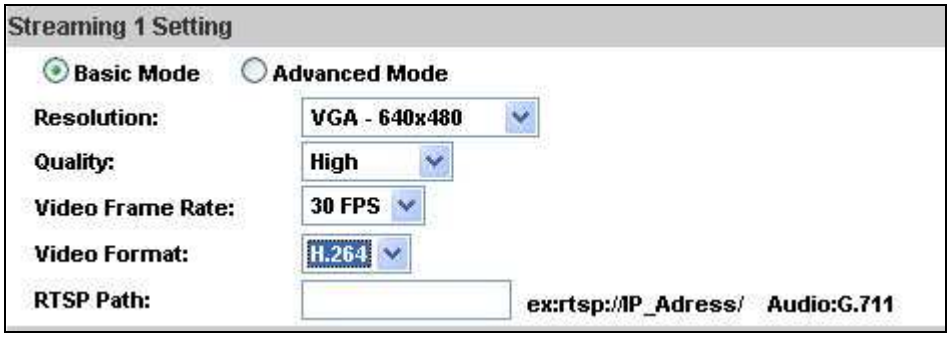
User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

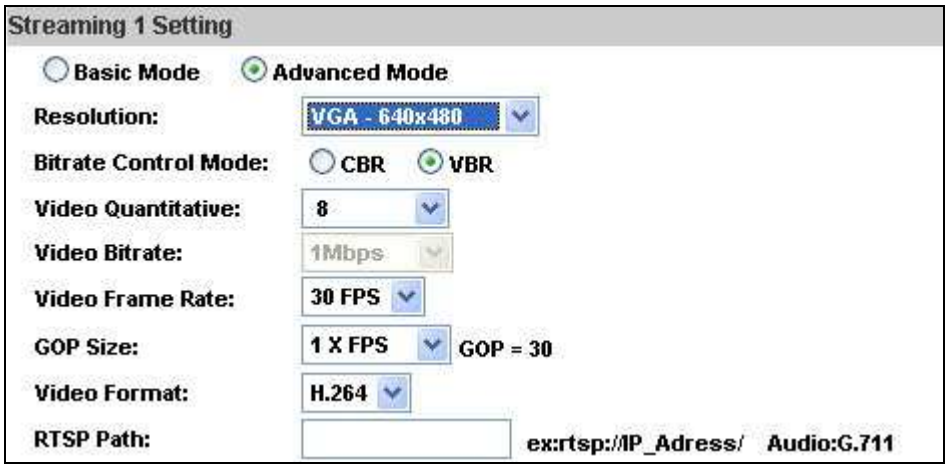
(Max Video Frame Rate for both streaming combined is 30 FPS)

a. Streaming 1 Basic Mode：



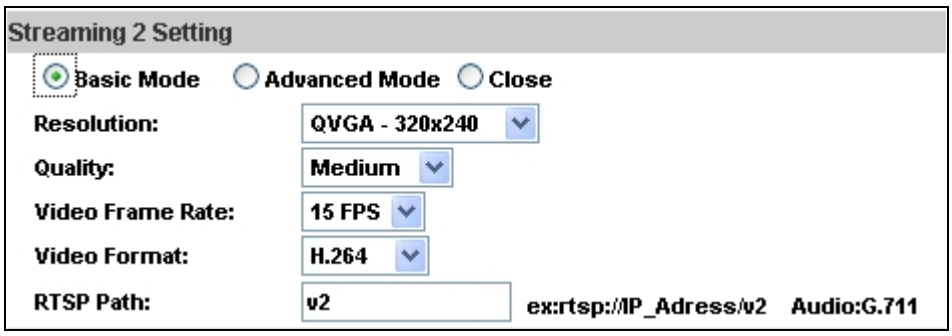
1. Resolution：
   There are 3 resolutions can be chosen.
   640x480, 320x240, 176x144
2. Quality：
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not good for internet transmitting
3. Video Frame Rate：The video refreshing rate per second.
4. Video Format：H.264, MPEG4 or JPEG
5. RTSP Path: RTSP output name

b. Streaming 1 Advanced Mode：



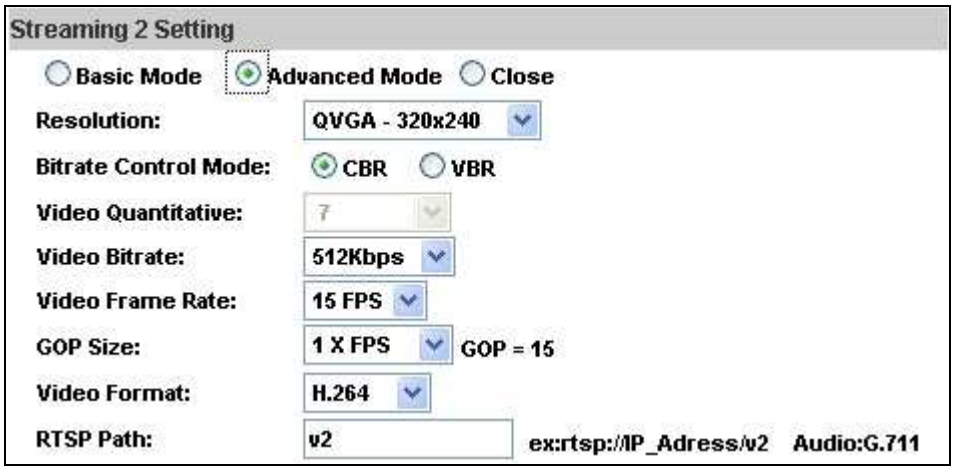
1. Resolution：
   There are 3 resolutions can be chosen.
   640x480, 320x240, 176x144
2. Bitrate Control Mode
   There are CBR〔Constant Bit Rate〕 and VBR〔Variable Bit Rate〕to use.
   CBR：32Kbps~4Mbps (the higher the CBR is, the better the video quality is)
   VBR：1(Low)~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.
3. Video Frame Rate
   The video refreshing rate per second.
   NTSC: Max 30 frames/second PAL: Max 25 frames/second
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：H.264, MPEG4 or JPEG
6. RTSP Path: RTSP output connecting route

c. Streaming 2 Basic Mode：



1. Resolution：
   There are 3 resolutions can be chosen.
   640x480, 320x240, 176x144
2. Quality：
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not good for internet transmitting
3. Video Frame Rate：The video refreshing rate per second.
4. Video Format：H.264, MPEG4 or JPEG
5. RTSP Path: RTSP output connecting route

d. Streaming 2 Advanced Mode：

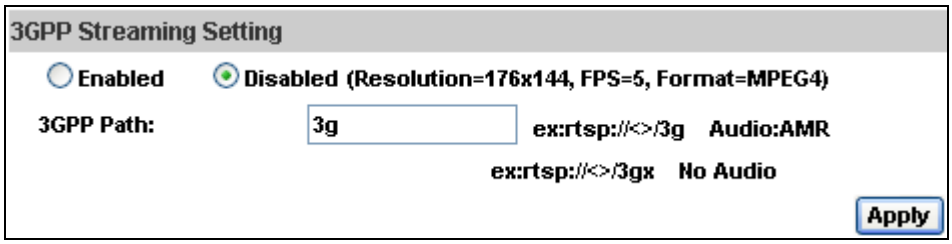


1. Resolution：
   There are 3 resolutions can be chosen.
   640x480, 320x240, 176x144
2. Quality：
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not

good for internet transmitting

3. Video Frame Rate：The video refreshing rate per second.
4. Video Format：H.264, MPEG4 or JPEG
5. RTSP Path: RTSP output connecting route

e. 3GPP Streaming mode:



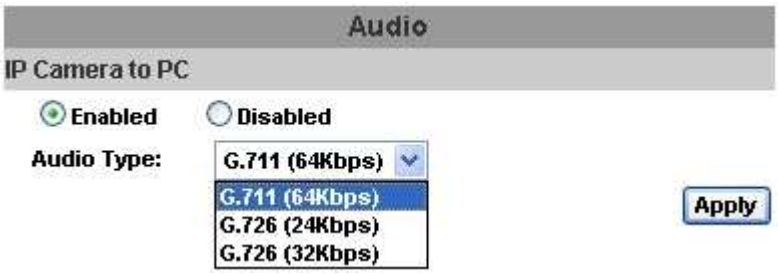
3GPP mode suggested setting: 176x144 resolution, 5FPS, MPEG4 format

1. Enable or Disable 3GPP Streaming
2. 3GPP: 3GPP output name

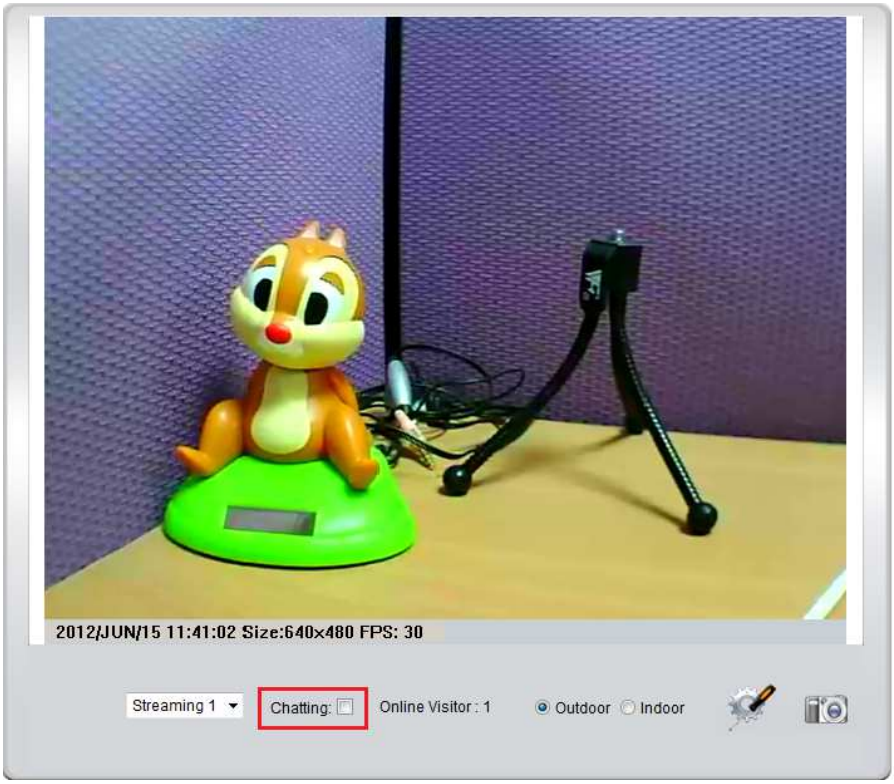
iii、 Audio：

IP CAMERA supports 2-way audio. User can send audio from IP Camera Built-in mic to remote PC; User can also send audio from remote PC to IP Camera's external speaker.

a. Audio from IP camera built-in mic to local PC: select "Enable" to start this function and also can select the audio type.



b. Audio from local PC to IP Camera: Check "chatting" in the browsing page.



The Audio will not be smooth when enable SD card recording function simultaneously.

D.Event List

IP CAMERA provides multiple event settings.

i、 Event Setting

a. Motion Detection：

IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local Micro SD card. To set up the motion area, click “Area Setting”. Using mouse to drag and draw the area. The same operation for area 2 and 3.

b. Record File Setting: IP CAMERA allows 3 different types of recording file to change its record size.

When motion/alarm is triggered, there are 3 different types of record mode.

1. AVI File (With Record File Setting)

2. Multi-JPEG (With Record File Setting), only with JPEG compression format.
3. Single JPEG (Single File with Interval Setting)

c. Record Time Setting：

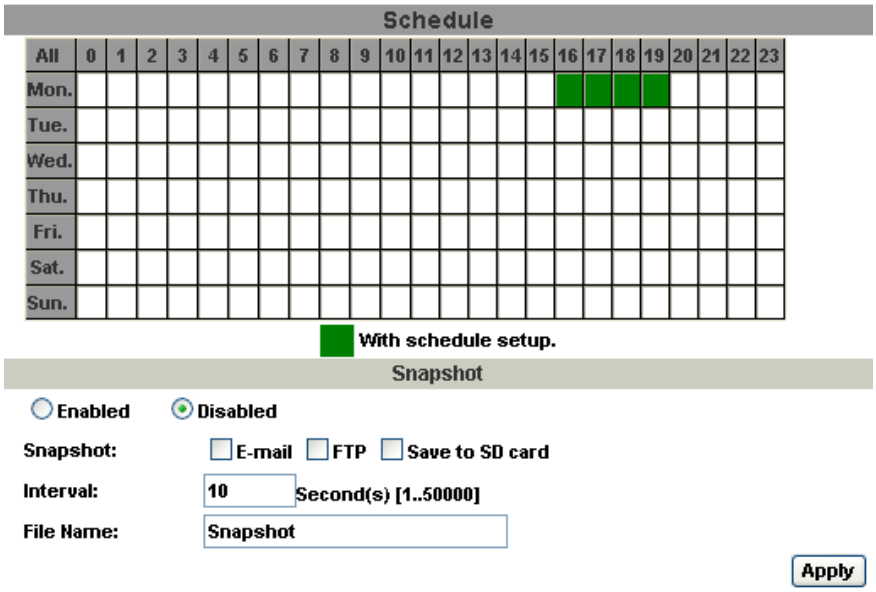
Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered.

Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

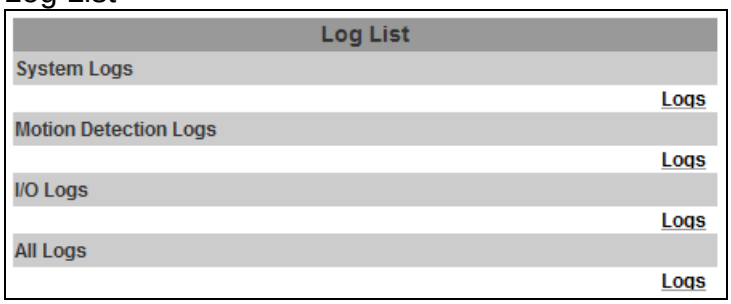
ii、 Schedule

a. Schedule: After complete the schedule setup, the camera data will be recorded according to the schedule setup.

b. Snapshot: After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.



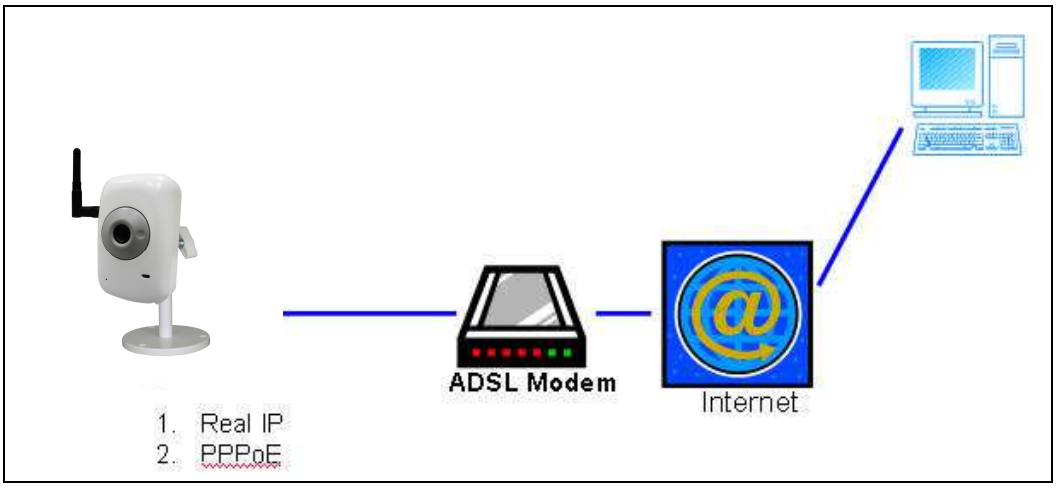
iii、 Log List



Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won’t lose data due to power failure.

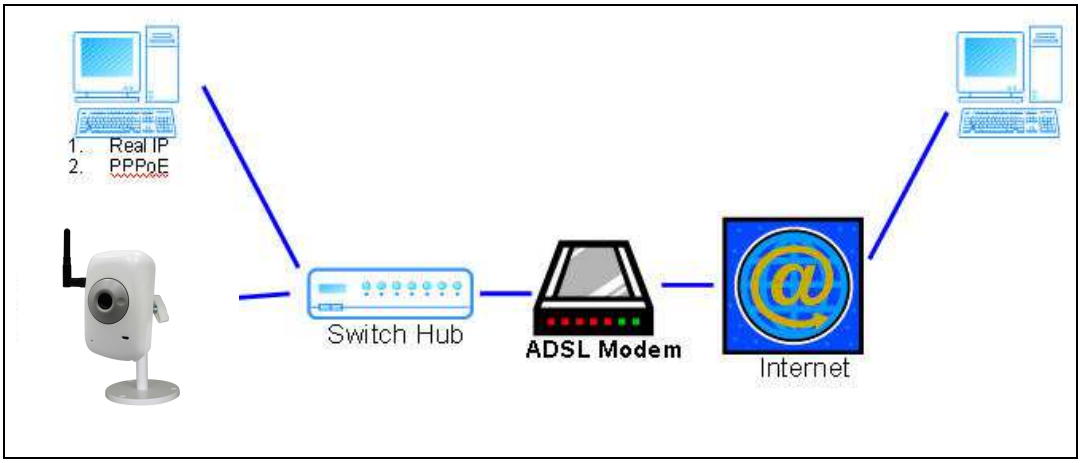
VI. Network Configuration

i、 Configuration 1：



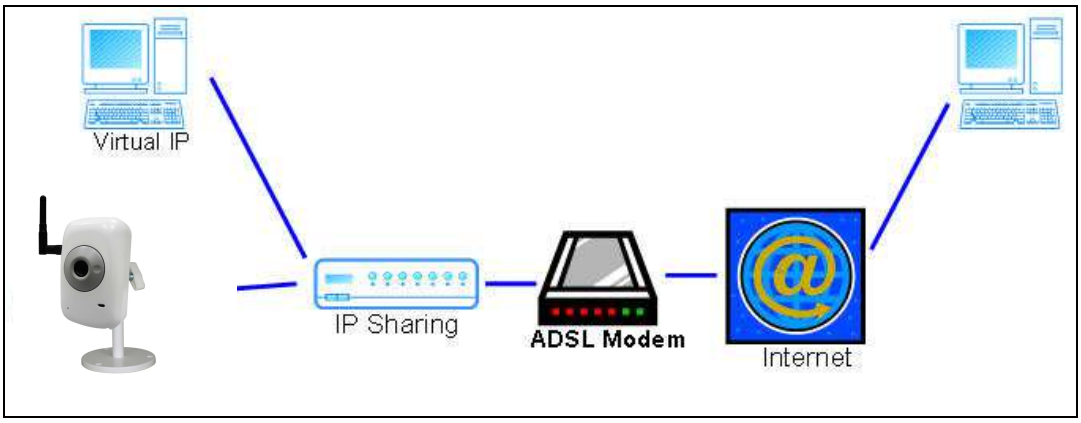
a. Internet Access：ADSL or Cable Modem
b. IP address：One real IP or one dynamic IP
c. Only IP CAMERA connects to the internet
d. For fixed real IP, set up the IP into IP CAMERA. For dynamic IP, start PPPoE.

ii、 Configuration 2：



a. Internet Access：ADSL or Cable Modem
b. IP address：More than one real IP or one dynamic IP
c. IP CAMERA and PC connect to the internet
d. Device needed：Switch Hub
e. For fixed real IP, set up the IP into IP CAMERA and PC. For dynamic IP, start PPPoE.

iii、 Configuration 3：

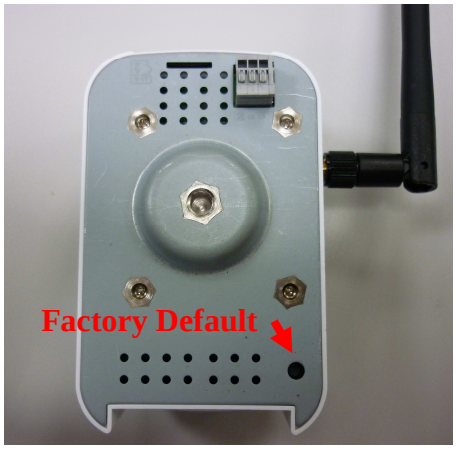


a. Internet Access：ADSL or Cable Modem
b. IP address：one real IP or one dynamic IP
c. IP CAMERA and PC connect to the internet
d. Device needed：IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

VII. Factory Default

i、 To recover the default IP address and password, please follow the following steps.

ii、 Remove power, and press and hold the button in the back of IP CAMERA.



iii、 Power on the camera. Don’t release the button during the system booting.

iv、 It will take around 30 seconds to boot the camera.

v、 Release the button when camera finishes proceed.

vi、 Re-login the camera using the default IP (http://192.168.1.200), and user name (admin), password (admin).

VIII. Package contents

i、 IP CAMERA Network Camera

ii、 Adaptor

iii、 Ethernet Cable

iv、 CD title (User manual, IP installation Utility)